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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,987	09/05/2000	Aiden Flanagan	S63.2-8765	7494

490 7590 09/13/2002

VIDAS, ARRETT & STEINKRAUS, P.A.  
6109 BLUE CIRCLE DRIVE  
SUITE 2000  
MINNETONKA, MN 55343-9185

EXAMINER

YAO, SAM CHAUN CUA

ART UNIT	PAPER NUMBER
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1733

10

DATE MAILED: 09/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/654,987	<b>Applicant(s)</b> FLANAGAN, AIDEN	
	<b>Examiner</b> Sam Chuan C. Yao	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
  - 4a) Of the above claim(s) 2-13, 16-23, 25, 26 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1, 14-15, 24, and 27-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some \* c) ☐ None of:
    - 1. ☐ Certified copies of the priority documents have been received.
    - 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 14-15, 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Forman (US 5,501,759) for reasons of record set forth in Paper No. 12 numbered paragraph 5. At least end portion of a polymeric dilation balloon of Forman overlaps an end portion of a catheter tube (figures 10 and 12). It is further taken that, a polymeric sheath of claim 14 reads on the polymeric dilation balloon.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 14-15, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forman (US 5,501,759) in view of Wysocki et al (US 5,339,380) for reasons of record set forth in Paper No. 12 numbered paragraph 7.

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5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 or 4 as applied to claim 1 above, and further in view of Erlich (US 4,772,275) or Vrba (US 5,957,930) for reasons of record set forth in Paper No. 12 numbered paragraph 8.

This rejection is made, in case, the recited polymeric sheath defines over a polymeric dilation balloon taught by Forman.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forman (US 5,501,759) as applied to claim 1 or 27 in numbered paragraph 2 above, for reasons of record set forth in Paper No. 12 numbered paragraph 9.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 4 as applied to claim 1 or 27 above, and further in view of Buchroeder et al (US 4,623,776) for reasons of record set forth in Paper No. 12 numbered paragraph 10.

### ***Response to Arguments***

8. Applicant's arguments filed on 08-23-02 have been fully considered but they are not persuasive.

Counsel argues on pages 3-4 that, "... a beam from a circular cross section is not equivalent to an annular beam." Examiner agrees Counsel that a single beam with circular cross-section is not the same as an annular beam. However, the recited phrase of "*at least one annular beam*" reads on (i.e. fails to define over) a plurality of circular beams which slightly overlap one another and are directed

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around an “**annular** bond site to insure substantially even energy distribution.” (bold-face added). It is worthwhile to note a dictionary definition of the term “annular”. According to The American Heritage Dictionary, 2<sup>nd</sup> College Edition, the term “annular” means “*Forming or shaped like a ring.*”. It is submitted that, the overlapping circular beams around an annular bond site intrinsically form a single ring-shaped beam. Equally important, all these circular beams are derived from a “single laser beam” (col. 8 line 46) from a single laser energy source (134), which diverges and then re-focus using a plurality of fiber-optics as illustrated in figure 11. This process is, in fact, quite analogous to the present invention. However, instead of using fiber-optics for diverging a beam and then refocusing the beam around an annular bond site, the present invention (**not presently claimed**) applies a series of lens.

Counsel argues on page 4 that there is no motivation to combine the teachings of Wysocki et al and further argues that “*Even if the references were combined, the combination would result in spliced tubes and polymeric material.*”. Examiner strongly disagrees with Counsel’s assertion. As noted in the prior office action, it would have been obvious in the art to “*generat[e] at least one annular beam of electromagnetic energy*” in bonding a balloon onto a catheter in the process taught by Forman because: Wysocki et al teaches using a laser and a parabolic mirror to “*generat[e] at least one annular beam of electromagnetic energy*” to fusion-weld a pair of optical fibers, and further discloses that, the optical fibers are uniformly heated around their circumference and the process produces

*“highly reproducible results ...”* (col. 2 lines 18-68). The collective teachings of Forman and Wysocki et al would have suggested to one in the art to incorporate the laser heating technique of Wysocki et al to the process of Forman in welding a balloon catheter to a catheter tube because it provides an effective and yet highly reproducible way of uniformly heating around a catheter tube and catheter balloon so that they can be uniformly welded together and form a uniform “fluid tight seals” (col. 1 lines 14-16). In response to a 2<sup>nd</sup> part of Counsel’s argument, it is respectfully submitted that, *“the combination would” NOT “result in spliced tubes and polymeric material.”* To do so, would result in completely destroying the teachings of Forman (a primary reference), as such would result in forming a completely different and inoperable angioplasty balloon catheter. Forman teaches forming an angioplasty balloon catheter by overlapping a polymeric dilation balloon around a catheter tube, and using laser to annularly spot heat-weld the polymeric balloon to the catheter tube to form a seal between them (figures 10 and 12). Rather, the combine teachings of Forman and Wysocki would result in a formation of an angioplasty balloon catheter, where a dilation polymeric balloon and a catheter tube overlapping each other are spot heat-welded together using a laser welding technique taught by Wysocki et al. Finally, as for Counsel’s argument regarding the Buchroeder patent on page 6, the Buchroeder patent is merely cited to show that it is known in the art to simultaneously direct a laser to different locations. One in the art motivated by a desired to simultaneously heat-weld a polymeric material to a catheter tube using

a laser source in the modified process of Forman would have applied a similar technique taught by Buchroder to simultaneously direct a laser beam to different spot welding locations.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

  
Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

scy  
September 12, 2002